

Governor's Water Augmentation, Innovation and Conservation Council

September 12, 2019



I. Welcome and Introductions



II. Committee Updates

Desalination Committee

Non-AMA Groundwater Committee

Post 2025 AMA Committee

Long Term Water Augmentation Committee



Desalination Committee update

Chairman : Philip Richards



Non-AMA Groundwater Committee update

Co-Chairwomen : Rep. Gail Griffin & Jamie Kelley



Non-AMA Groundwater Committee

First Meeting:
July 23, 2019

Highlights:

- ❖ **More than 60 attendees**
- ❖ **Discussion of goals and future topics for consideration by committee**

Non-AMA Groundwater Committee

Goals:

- A. To achieve a baseline understanding of Arizona groundwater in non-Active Management Areas.*
- B. To identify and develop voluntary alternatives to address groundwater issues by planning area while protecting individual property rights.*
- C. To make recommendations to the full Council for Best Management Practices at the local level.*
- D. Further discussion and recommendations of issues that may be brought forward.*

Non-AMA Groundwater Committee

Next Meeting:

Monday, September 23, 2019

10:00 AM to 12:00 PM

Agenda Highlights:

- **Status of Groundwater in Arizona**
- **Best Management Practices**

Post 2025 AMA Committee update

Co-Chairmen : Warren Tenney & Tim Thomure



Objective:

Identify water management challenges and opportunities facing the AMAs and generate objectives and strategic solutions for 2025 and beyond

Foundation:

Evaluate and build on the success of the first 45 years of the Code for sound water management after 2025



Approach:

1. *Identify successes and challenges*
2. *Propose solutions to address challenges*

Key Principles:

1. *Sound water management is critical*
2. *Open, honest discussion - Deliberate rather than posture*
3. *Utilize data to define issues*
4. *Respect differences among AMAs*



Structure:

Co-Chairs – Warren Tenney & Tim Thomure

Seeking individuals to serve on Committee who are willing to commit to an intensive process to delve into tough issues and find solutions

First Meeting:

October 10th 2:00 p.m. @ ADWR



Long Term Water Augmentation Committee update

Chairman : Wade Noble



III. Long Term Water Augmentation Options for Arizona

August 2019

Presenting: Richard Humphreys, consultant to the
Committee, Carollo Engineers



Long-Term Water Augmentation Options for Arizona

Prepared for the
Long-Term Water
Augmentation Committee
of the Governor's
Water Augmentation,
Innovation, and
Conservation Council

 **carollo**
Engineers...Working Wonders With Water®


MONTGOMERY
& ASSOCIATES


WestLand Resources, Inc.
Engineering and Environmental Consultants

Presentation Topics

- Water augmentation planning process
- Water augmentation options
- Best practices that improve water use efficiency
- Projects and practices between willing parties
- Water augmentation concepts requiring further development
- Impediments to water augmentation

Arizona Water Planning Areas



Recommended Water Augmentation Options

Water Augmentation Options	Best Practices that Improve Water Use Efficiency	Projects and Practices Between Willing Parties that Improve Water Management	Water Augmentation Concepts Requiring Further Development
Ocean Desalination	Agricultural Water Conservation	Water Supply Transfers for CAP and Colorado River Water Users	Weather Modification
Brackish Groundwater Desalination	Enhance Aquifer Storage	Modify Operation of the Roosevelt Dam to use the Flood Control Space	Phreatophyte Management
Groundwater Transfers from the Harquahala and Butler Groundwater Basins	Reclaimed Water Utilization	SRP-CAP Interconnect Facility	Watershed Management
	Municipal Water Conservation		
Impediments to Water Augmentation			
Little Colorado River and Gila River Water Rights Adjudications	Unresolved Indian Water Rights Claims	Groundwater Management Planning	

Water Augmentation Options

- Ocean Desalination- Minute 323: Extension of Cooperative Measures and Adoption of a Binational Water Scarcity Contingency Plan in the Colorado River Basin
- Brackish Groundwater Desalination
- Groundwater Transfers from the Harquahala INA Groundwater Basin



Best Practices that Improve Water Use Efficiency

- Expand Agricultural Water Conservation
- Enhance Aquifer Storage
- Municipal Water Conservation
- Reclaimed Water Utilization



Projects and practices between willing Parties that Improve Water Management

- Water Supply Transfers for CAP and Colorado River Water Users
- Modify Operation of the Roosevelt Dam to Use the Flood Control Space
- SRP-CAP Interconnect Facility



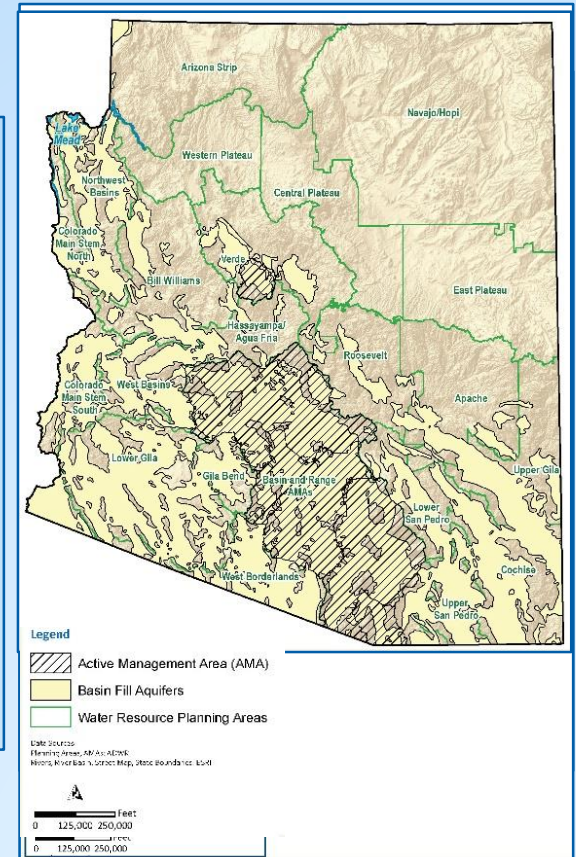
Water Augmentation Concepts Requiring Further Development

- Weather Modification
- Phreatophyte Management
- Forest Management



Impediments to Water Augmentation

- Little Colorado and Gila River Stream Adjudications
- Unresolved Indian Water Rights Claims
- Lack of Statewide Groundwater Management Planning



Water Augmentation Study Outcomes

- Water augmentation implementation is up to water users in each planning area.
- A “new” bucket of water was not discovered in this project. However:
- The value of water is relative, so water augmentation options considered impractical today may be feasible in the future.
- New water supply options have to be developed and paid for by those who want them.
- Impediments to water augmentation are difficult and time consuming to resolve, but resolution would provide increased certainty for water supply planning and infrastructure investment.

Acknowledgements

The Long Term Water Augmentation Committee of the Governor's Water Augmentation, Innovation and Conservation Council

- Wade Noble, Chair; Maureen George, Chair (retired); Bruce Hallin; Reed Blochberger; Warren Tenney; Chuck Cullom; Bill Plummer; Bill Garfield; Jamie Kelley; Sarah Porter; Scott Deeny; Stefanie Smallhouse; Virginia O'Connell; Chris Udall

Arizona Department of Water Resources

- Gerry Walker; Cyndi Ruehl; Viviane Baji; Martin Stiles; Zach Richards; Karen Modesto; Jeri McAnerny



Discussion

IV. Adjudications Reform Update

Kyl Center for Water Policy, Sarah Porter



Moving Toward Greater Water Certainty

Arizona's Stream Adjudications

ASU[®] Kyl Center for Water Policy
at Morrison Institute
Arizona State University

Table of contents

- 1 What are the Adjudications?**
- 2 Why have they taken so long?**
- 3 A short dive into subflow**
- 4 Why the Adjudications matter**
- 5 What the Kyl Center is doing on the Adjudication**

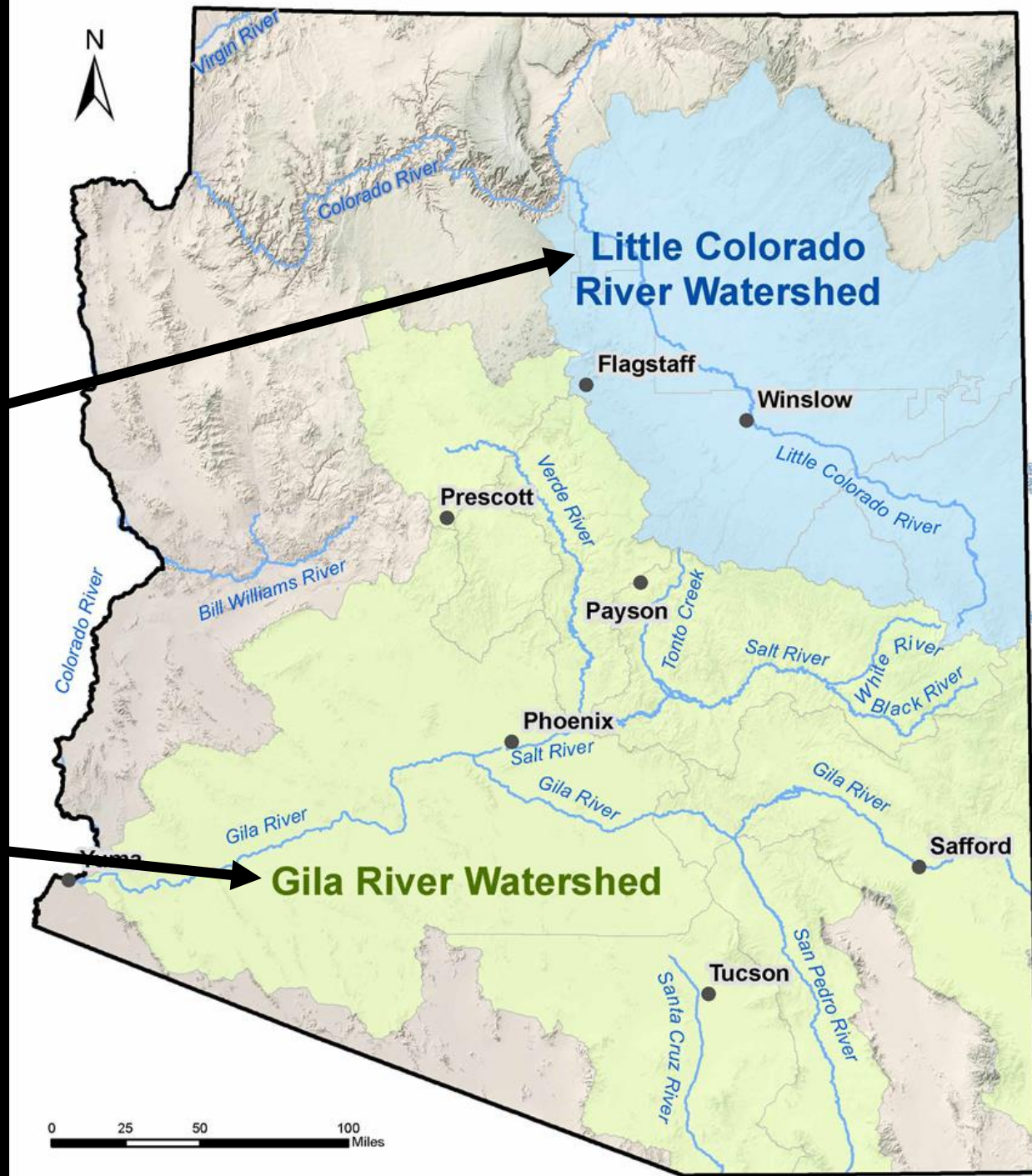
Surface water rights are special

- Priority date
- Quantity
- Point of diversion



est. 1978
6,000 claimants
14,000 claims

est. 1974
40,000 claimants
85,000 claims



**Why have the
adjudications taken
so long?**

Foundational Legal Questions, 1983-1999

***Arizona v. San Carlos Apache Tribe* (U.S. Supreme Court 1983):** upheld state court jurisdiction to adjudicate Indian water rights where U.S. is properly joined as a party and the state has adequate expertise and technical resources to adjudicate the claims.

***U.S. v. Superior Court* (Ariz. Supreme Court 1985):** rejected state constitution-based challenges to state court jurisdiction and ADWR's role as technical advisor.

***San Carlos Apache Tribe v. Superior Court* (Ariz. Supreme Court 1999):** invalidated 1995 amendments to adjudication statutes on grounds they violate the separation of powers doctrine or impair vested property rights.

The *Gila* Decisions, 1992 - 2012

Gila I: Upheld **constitutionality of service** of summons and other adjudication procedures to assure due process

Gila II & IV: Established criteria to determine whether certain wells withdraw **subflow subject to the jurisdiction** of the adjudication

Gila III: Upheld **Federal reserved water rights to groundwater** under certain circumstances

Gila V: Clarified criteria to quantify **water rights for Indian reservations**

Gila VI: Held that 1935 **Globe Equity Consent Decree** has preclusive effect on Indian claims to Gila River mainstream but not tributaries in the Upper Gila subwatershed

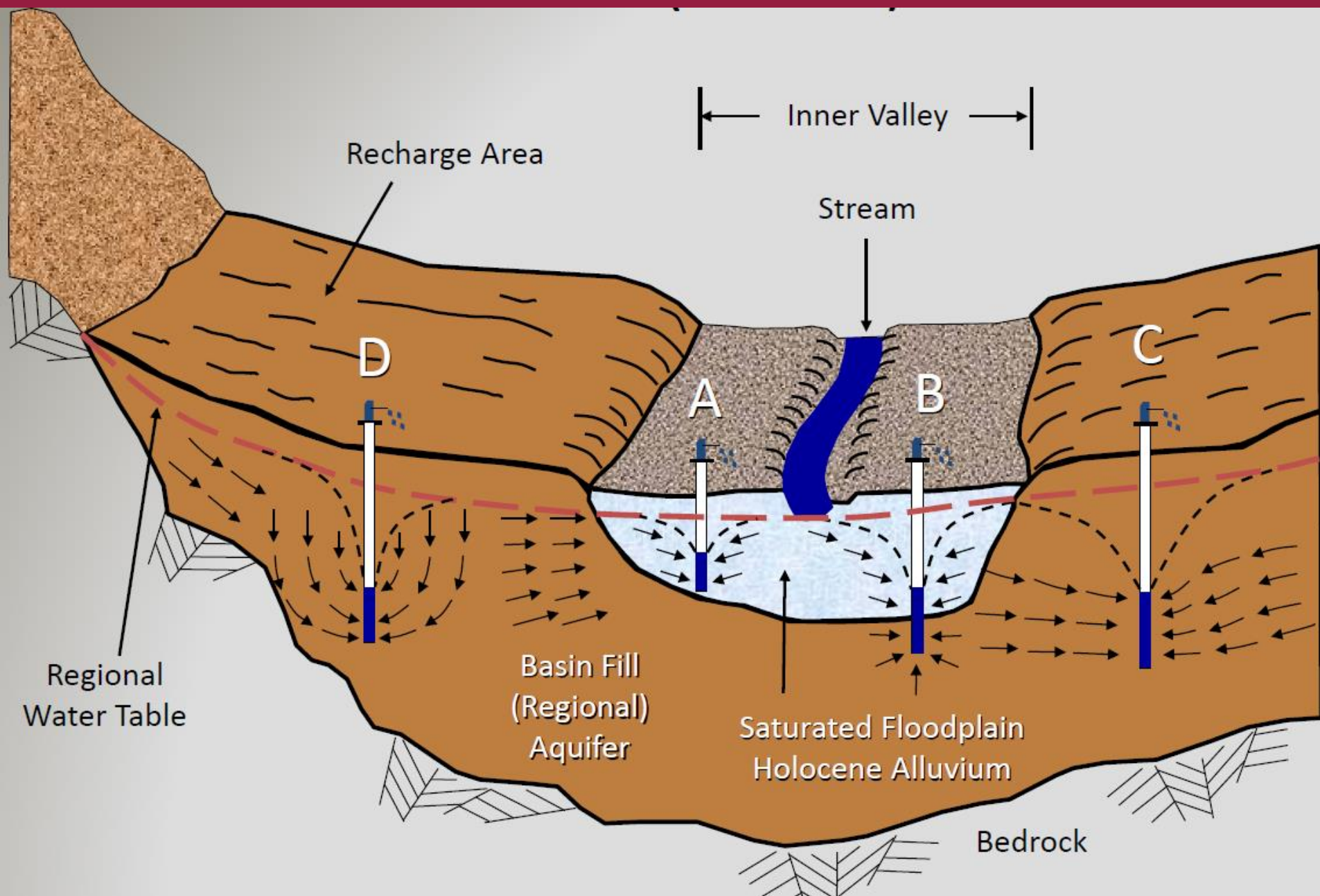
Gila VII & VIII: Approved **Indian water rights settlements** (Tohono O'odham and Gila River Indian Community)

Gila IX: Held that **State Trust Lands** are not entitled to federal reserved water rights

The subflow issue

“Under Arizona's bifurcated system of managing surface and groundwater, the concept of subflow serves to protect appropriable surface water rights against interference caused by the pumping of groundwater. Because water is a very precious and limited commodity in Arizona, much turns on how ‘subflow’ is determined.”

Gila IV (2000)



**“This Court’s
perception is that law
surrounding ‘subflow’
has proven to be the
root cause of the
delay.”**

Judge Brain, Minute Entry, June 2013

2002 - ADWR files San Pedro Subflow Technical Report

2005 - Superior Court approves ADWR's subflow methodology

2008 - ADWR files plan to update San Pedro HSR

Progress on Subflow

2009 - ADWR files Initial San Pedro Subflow Delineation Report

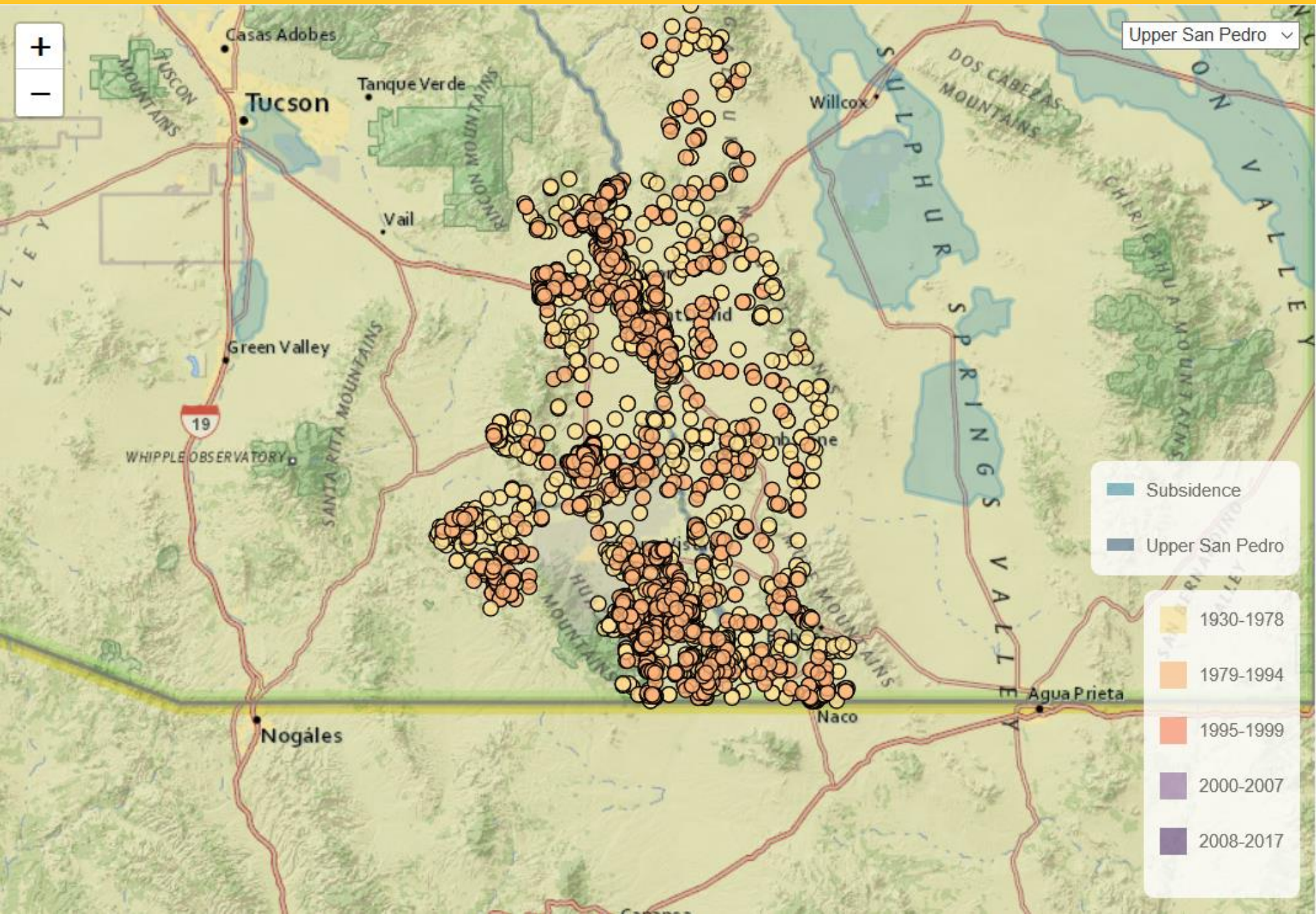
2010 - ADWR submits SPRNCA Land Ownership Report

2014 - ADWR files Revised San Pedro Delineation Report

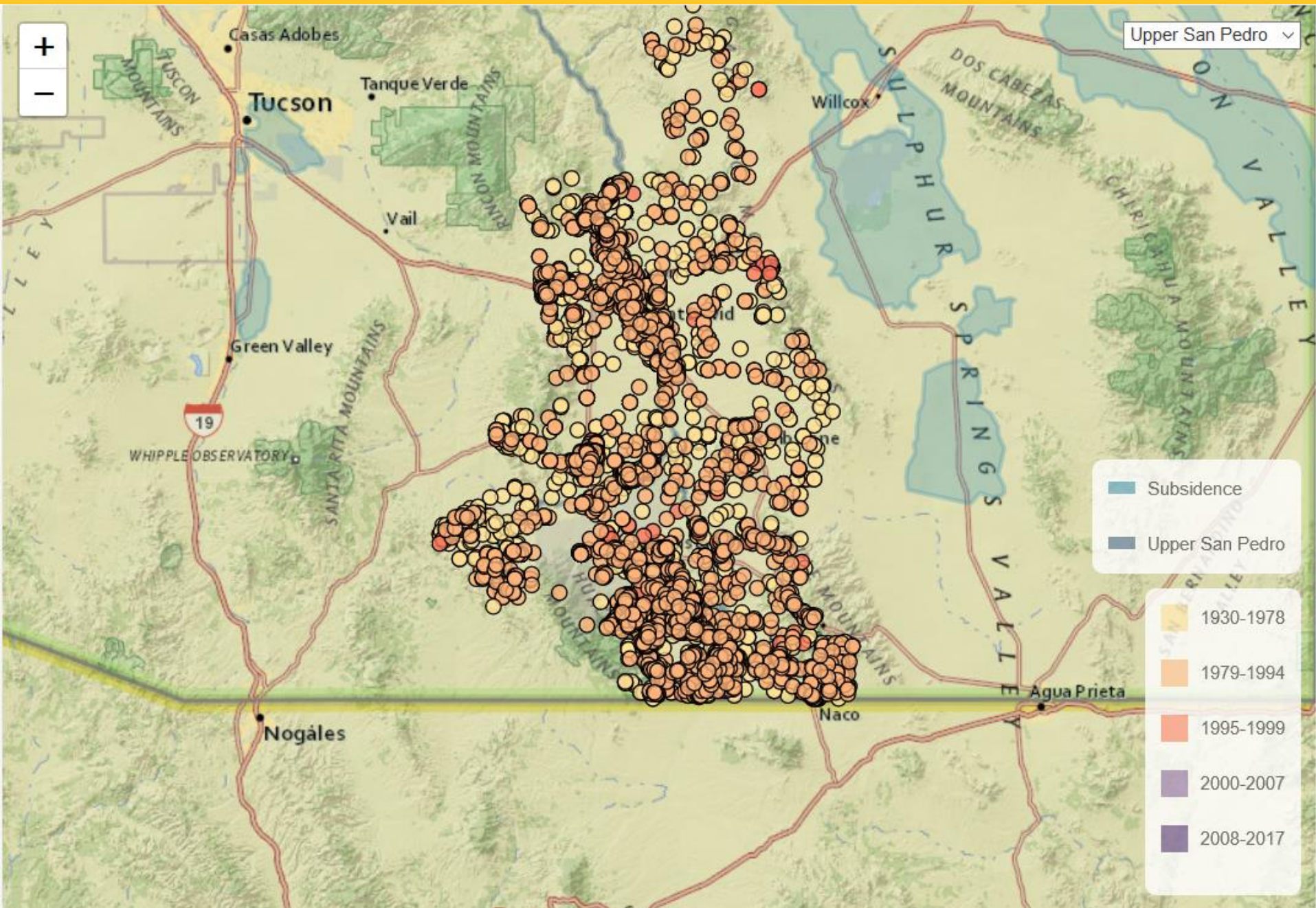
2015 - ADWR files Supplemental Delineation Report

2017 - Court approves San Pedro Subflow Zone Delineation

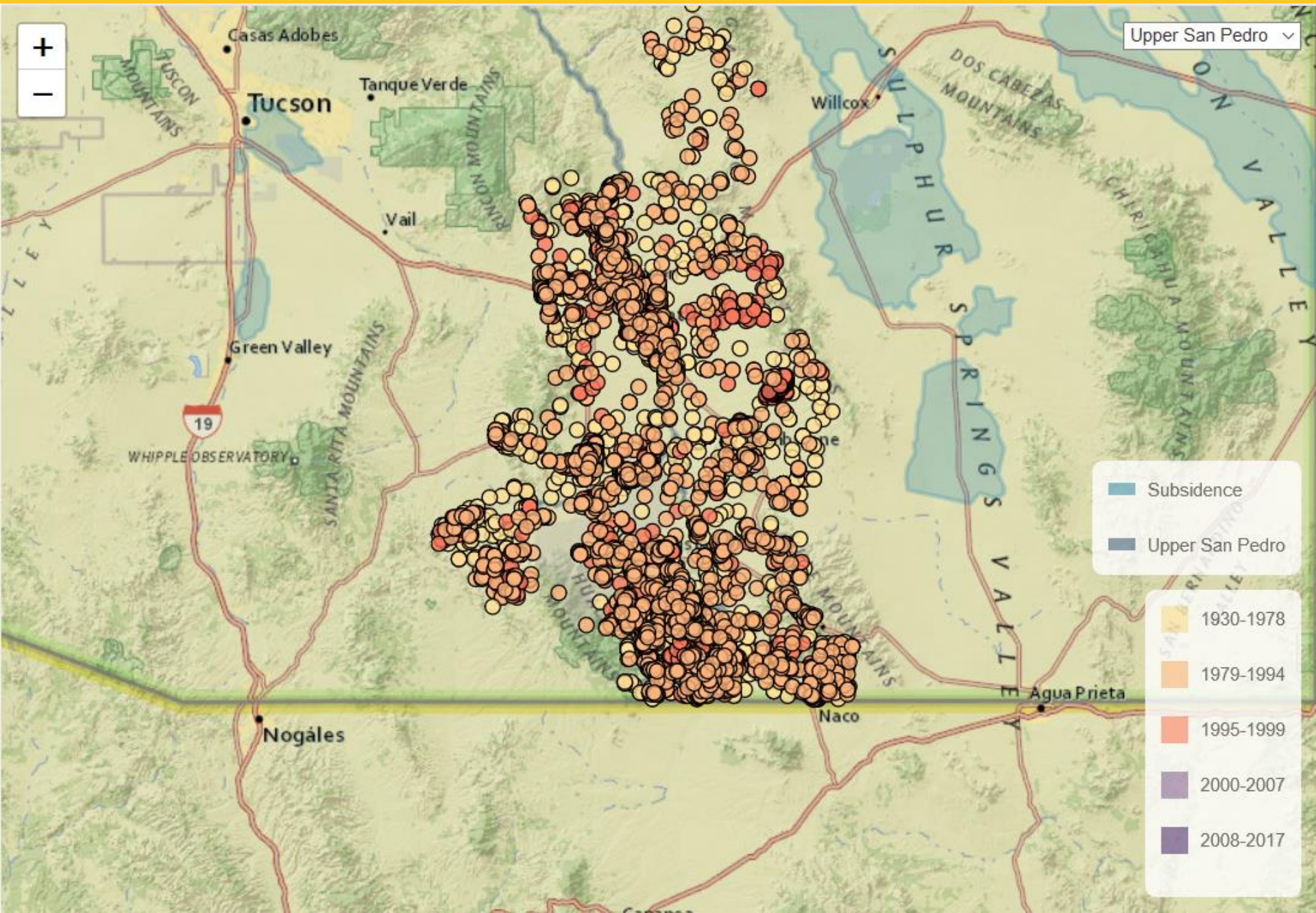
Upper San Pedro Basin – 1987 Well Development (3,592 wells)



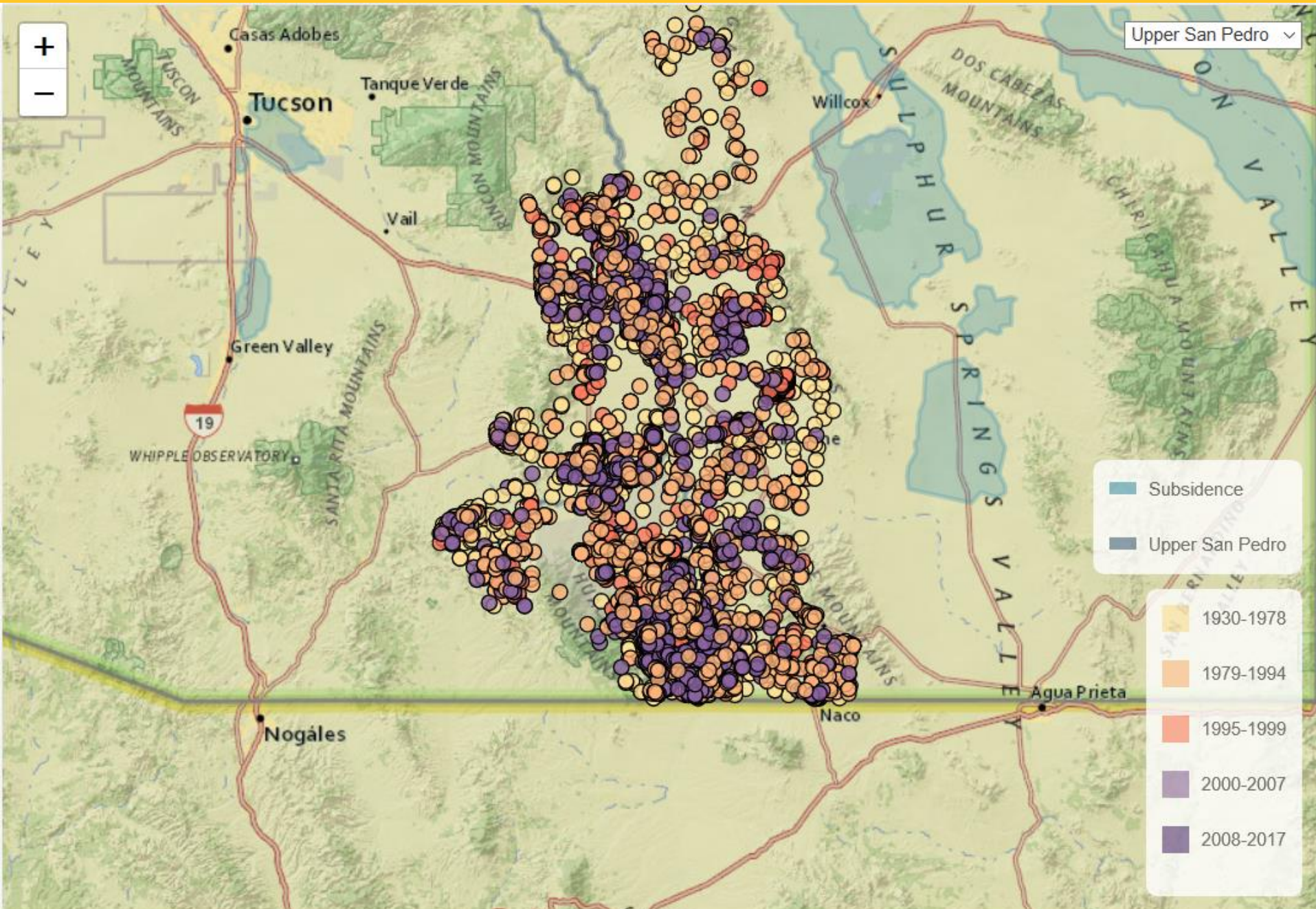
Upper San Pedro Basin – 1995 Well Development (5,104 wells)



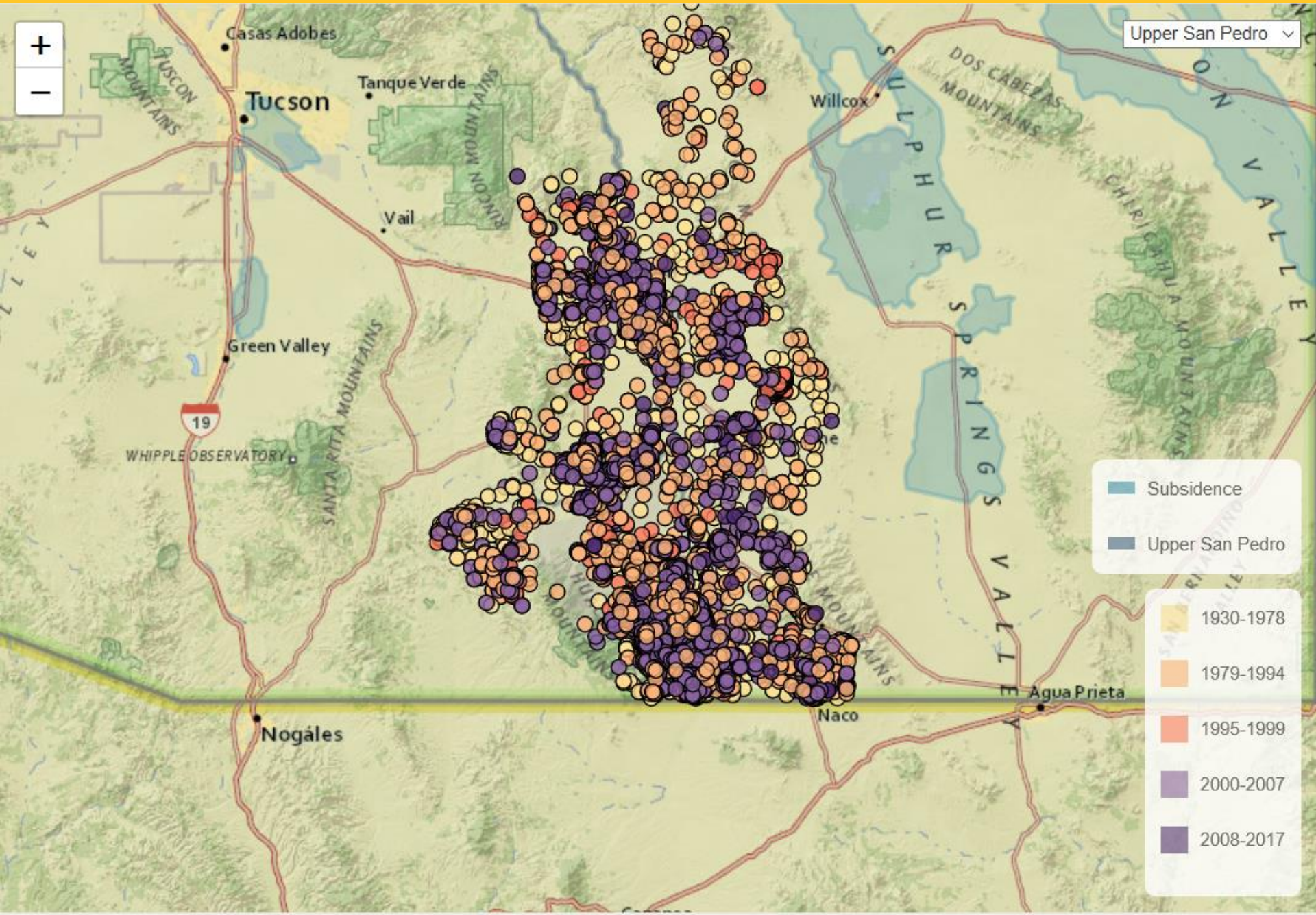
Upper San Pedro Basin – 2000 Well Development (6,113 wells)



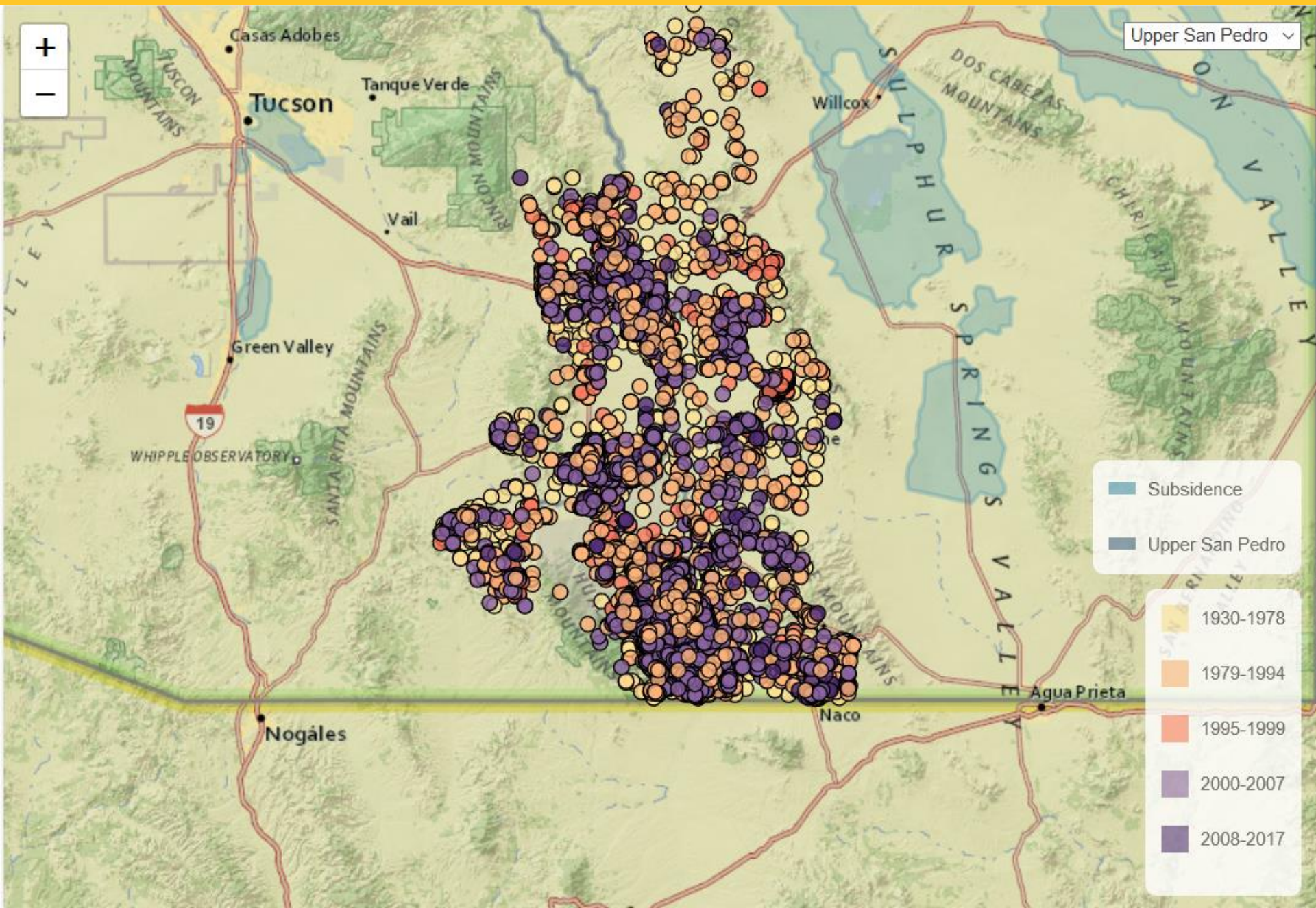
Upper San Pedro Basin – 2005 Well Development (7,585 wells)



Upper San Pedro Basin – 2012 Well Development (8,510 wells)

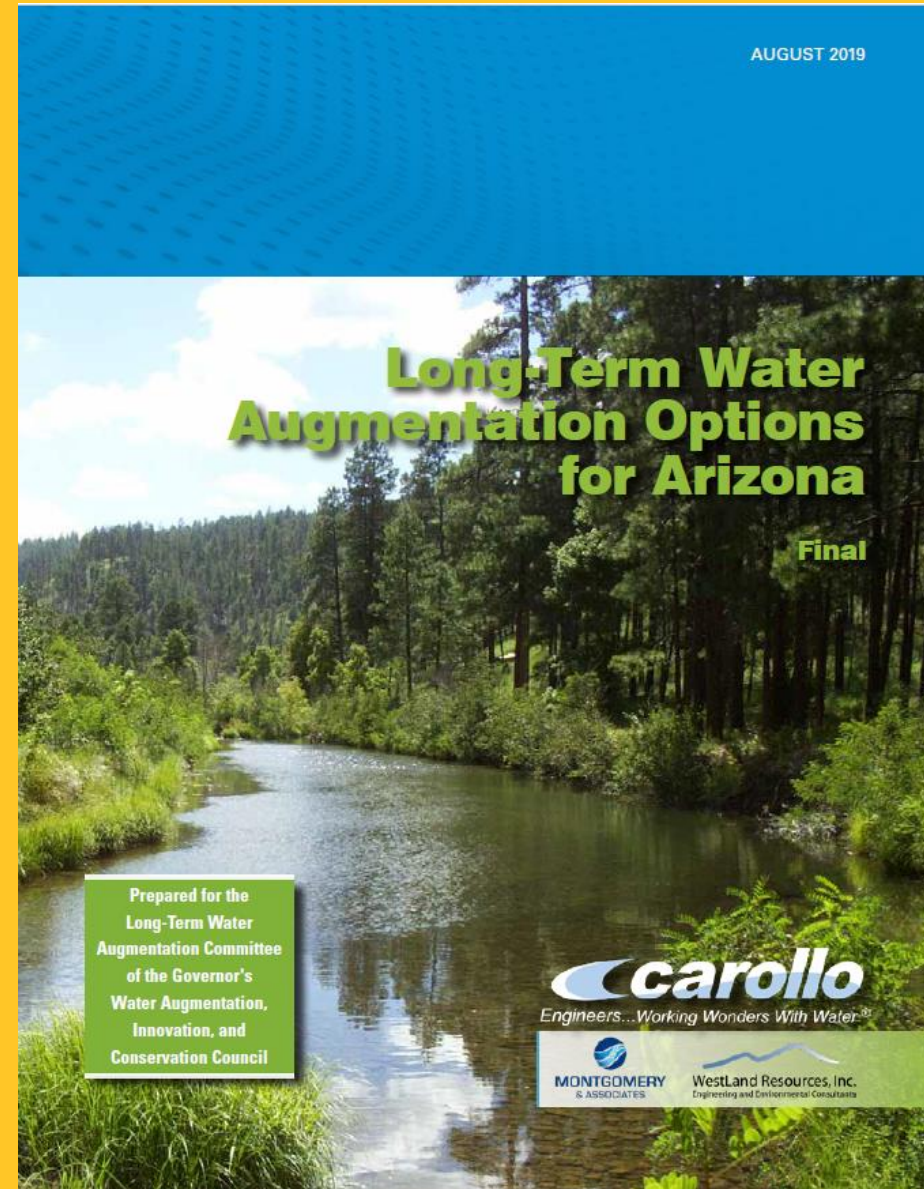


Upper San Pedro Basin – 2017 Well Development (8,765 wells)



Why it's important to resolve the Adjudications

“During the evaluation, barriers to water augmentation were also identified. These barriers in most cases prevent utilization of existing water supplies, and therefore require attention to resolve. These barriers include the ongoing Gila River and Little Colorado River adjudications, Indian water right claim settlements, and lack of rural area groundwater management and planning.”

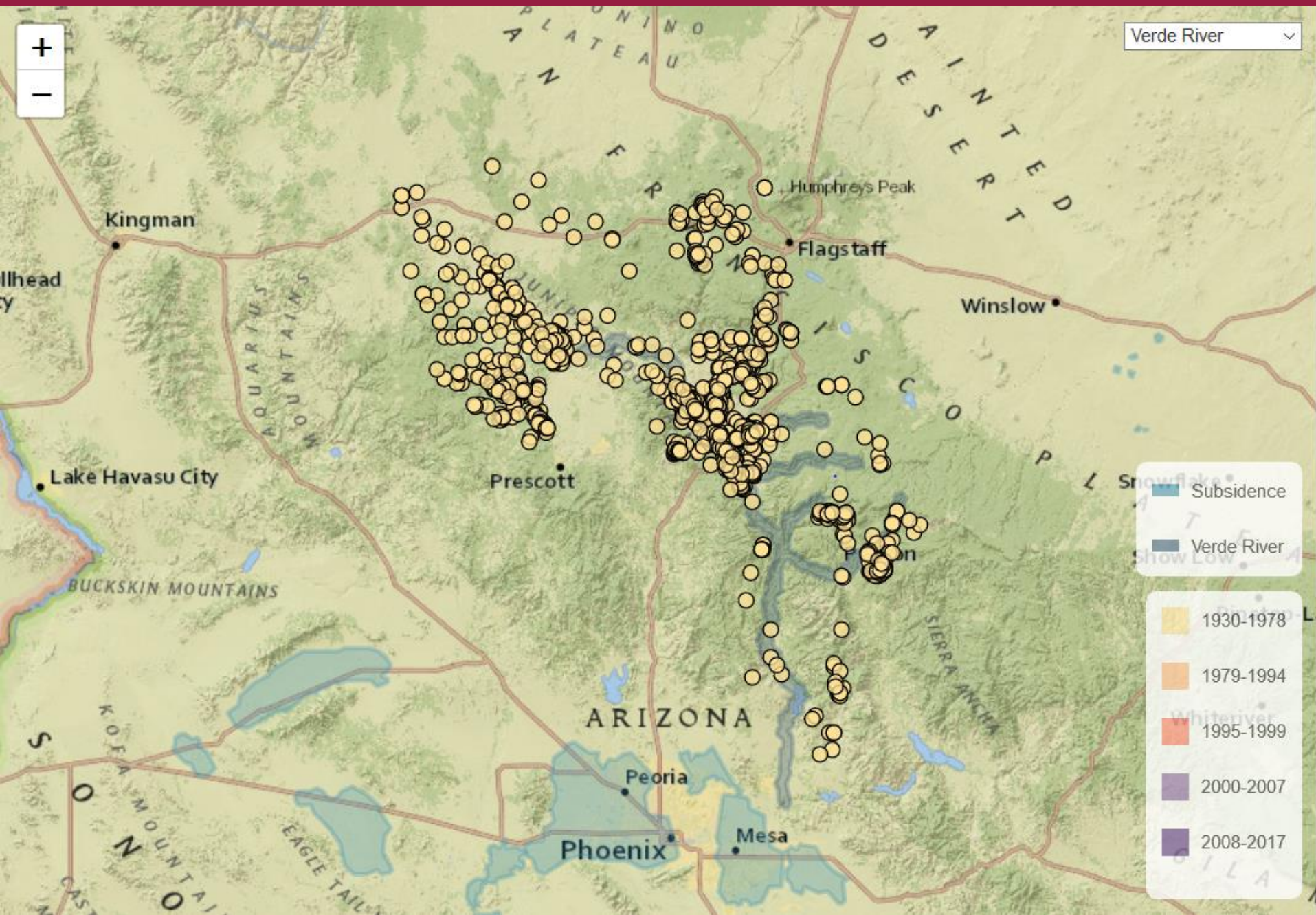


“Until that process is complete, **uncertainty** regarding the nature, extent and priority of water rights will make it **difficult** to identify **all the strategies necessary** for meeting projected water demands.”

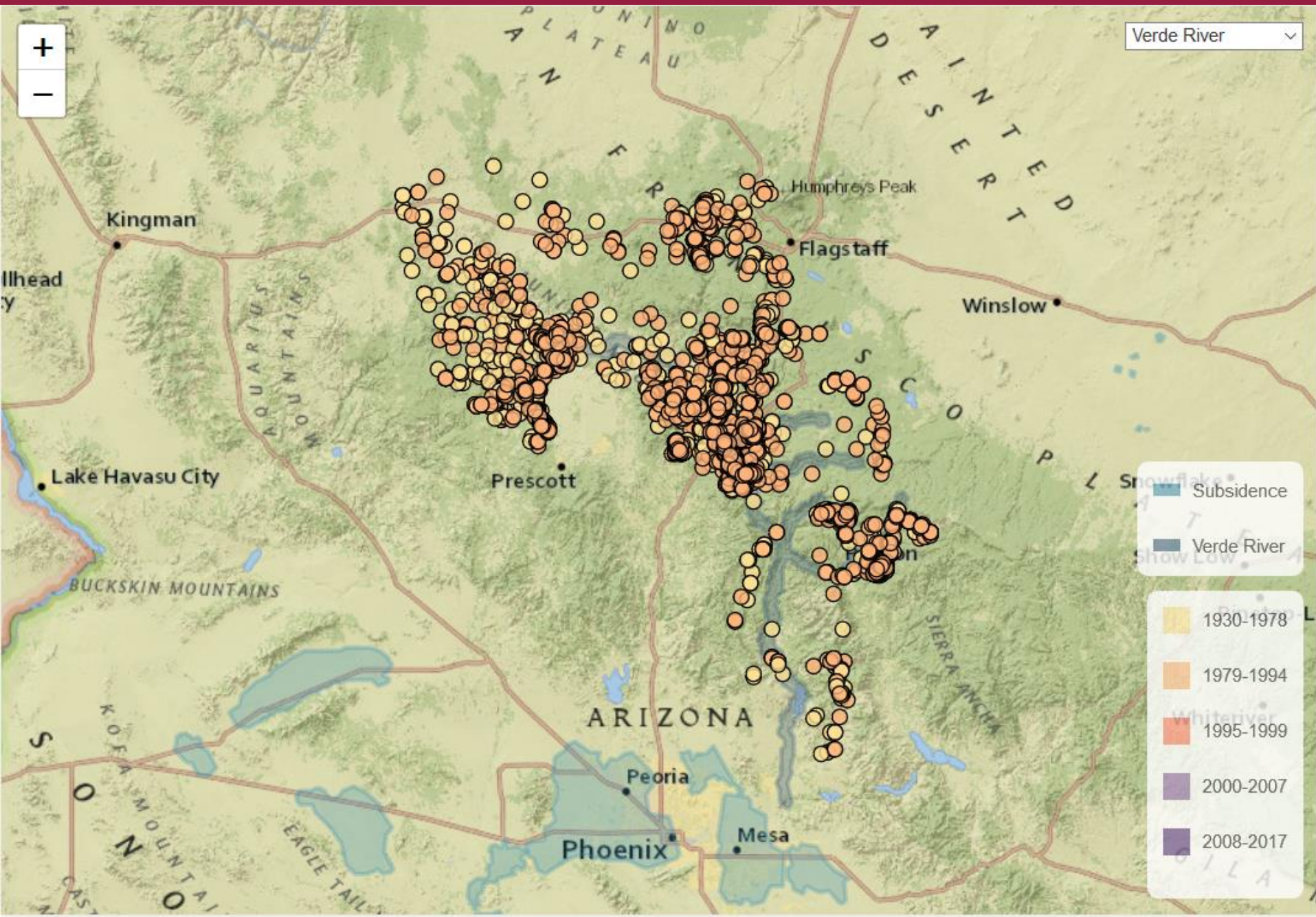


***Arizona's Next
Century: A Strategic
Vision for Water
Supply Sustainability
(2014)***

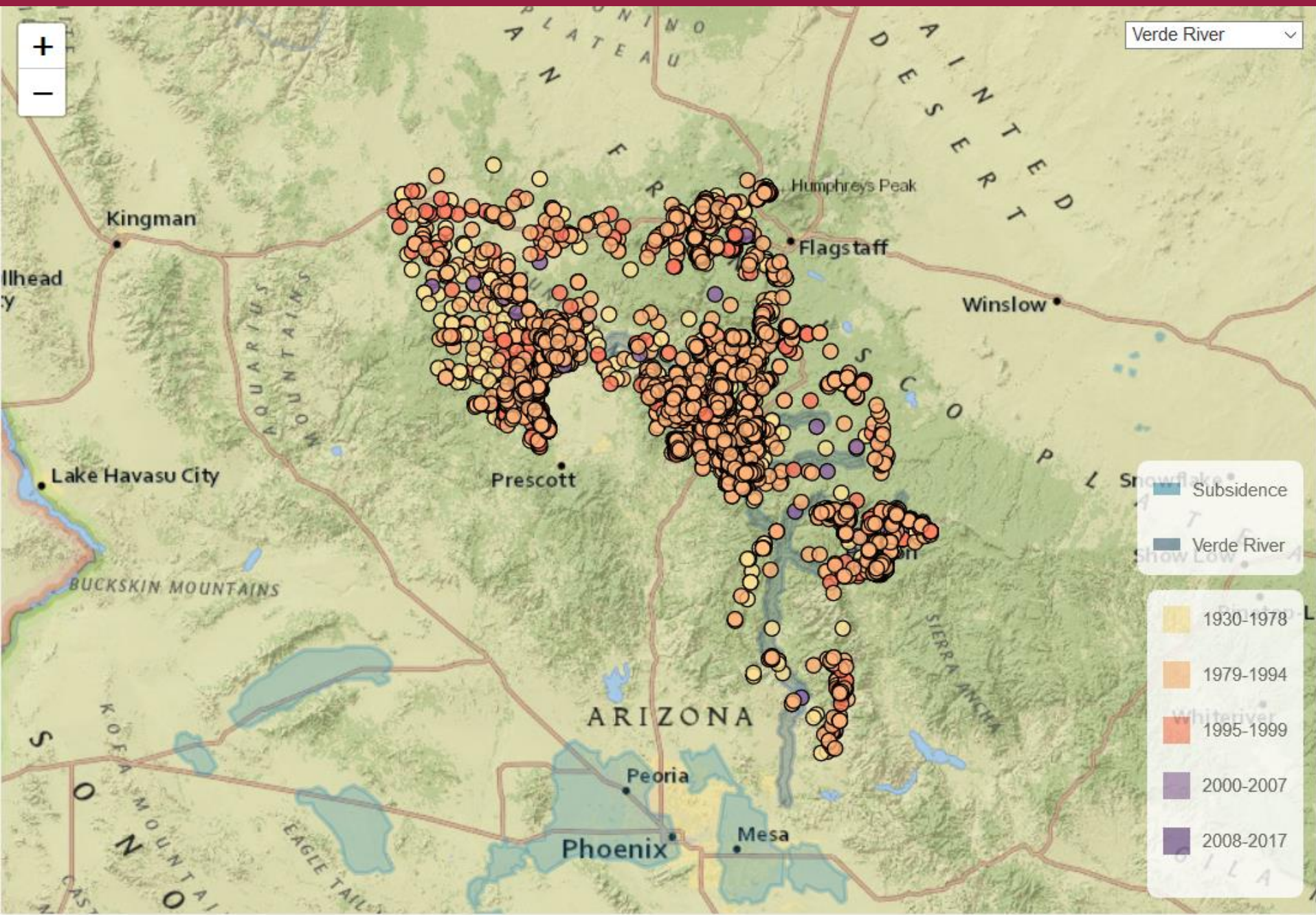
Verde Basin Well Development – 1974 (2,311 wells)



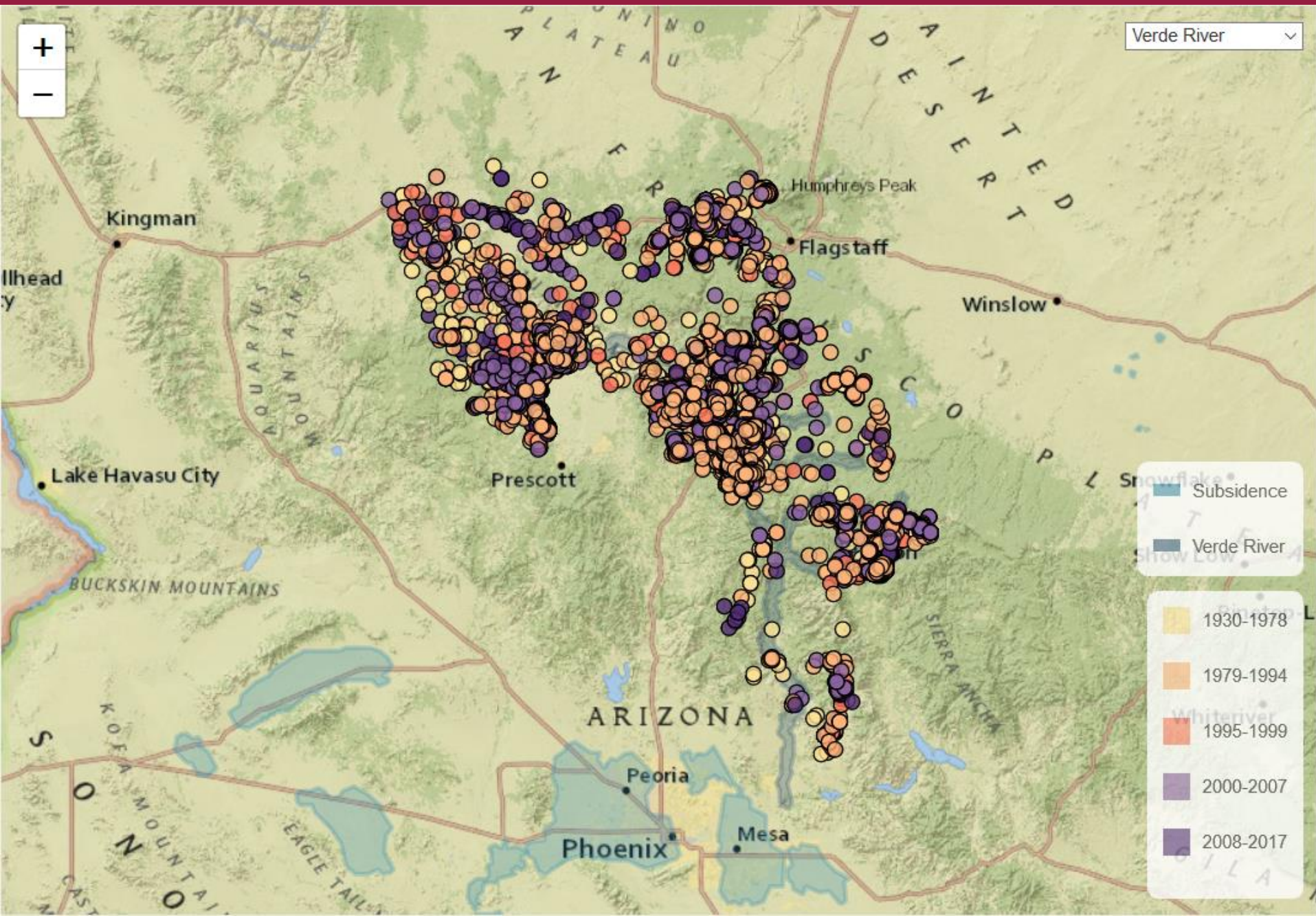
Verde Basin Well Development – 1988 (7,457 wells)



Verde Basin Well Development – 2000 (13,119 wells)



Verde Basin Well Development – 2017 (17,754 wells)



What are the implications?

water uncertainty

Delay makes the problem worse.

The Kyl Center's Adjudication Reform Efforts

Adjudication Reform Committee

- **Development of Proposed Special Procedural Order for Settling State Law Claims**
- **Extensive discussions of concepts for settling subflow disputes at the basin scale**
- **Water Managers' Concept for Addressing Subflow**

Key Concepts Discussed

Settling Claims in the Adjudication

Grandfathering current well owners

Limiting development of new wells

Transferability of well rights

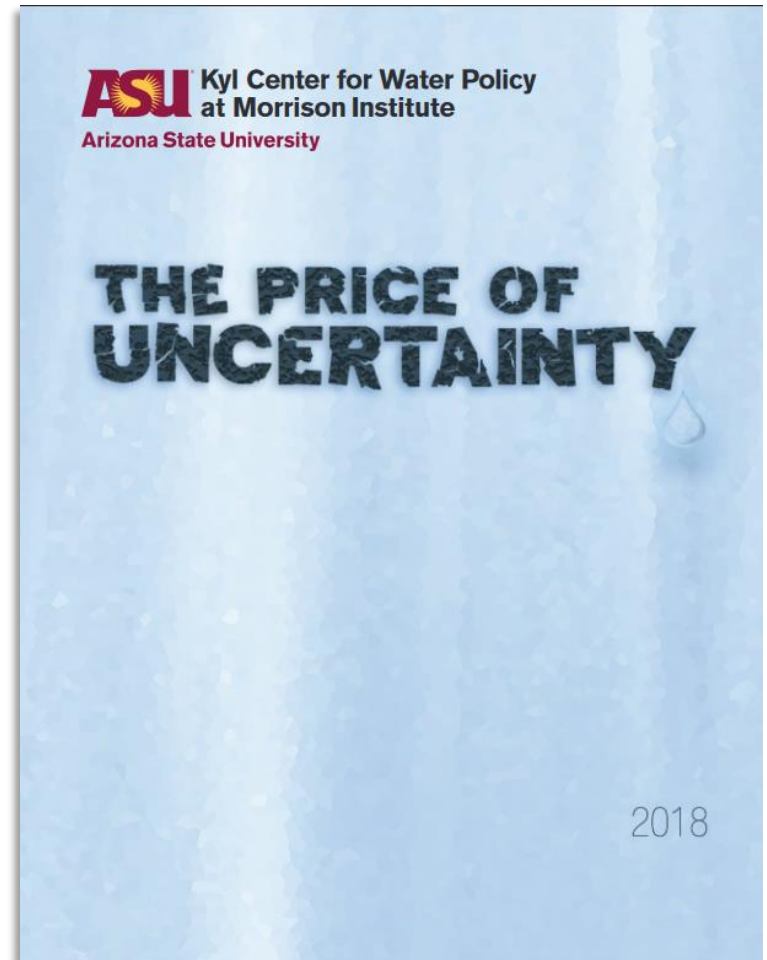
Options for mitigation

Water rights “escrow” program

Other Adjudication Related Work

- ***The Price of Uncertainty***
- ***Investing in Certainty****
- **Ongoing outreach**

*publication pending, fall 2019



Closing thoughts . . .

Lack of understanding of the adjudication is a major impediment to resolving claims.

Delay in resolving the adjudication serves neither existing nor future water users.

With most of the major foundational issues out the way, greater investment in court and ADWR adjudication staffing and resources is merited and will hasten the adjudication process.



**Kyl Center
for Water Policy
at Morrison
Institute**

**Arizona State
University**

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602-496-0586

Wells 55 interactive map

<http://water.dtn.asu.edu/>

V. Safe Yield in the AMAs

***PLEASE NOTE: DUE TO TIME RESTRICTIONS, THE
CHAIRMAN POSTPONED THIS PRESENTATION UNTIL
A FUTURE MEETING***

Natalie Mast, Manager, AMA Management Plans,
ADWR



VI. AMA Management Plans Update

Natalie Mast, Manager, AMA Management Plans,
ADWR



Management Plans Update



GWAICC Meeting
September 12, 2019

Natalie Mast
Program Manager – Management Plans

Estimated Timeline

4MP

Phoenix
AMA
Adoption

Pinal
AMA
Adoption

Santa
Cruz
AMA
Adoption

2019

2021

202_?

202_?

MPWG

Drafting
Plans

Adopting
Plans

5MP

Estimated Timeline

4MP

Phoenix
AMA
Adoption

Pinal
AMA
Adoption

Santa
Cruz
AMA
Adoption

2019

2021

202_?

202_?

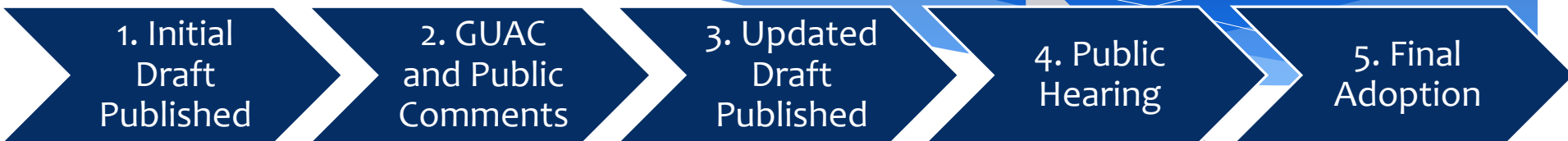
MPWG

Drafting
Plans

Adopting
Plans

5MP

Estimated 4MP Adoption Timeline



Phoenix AMA

- **Final Adoption:**
Summer 2020
- **Programs Effective:**
January 2023

Pinal AMA

- **Final Adoption:**
Winter 2020
- **Programs Effective:**
January 2023

Santa Cruz AMA

- **Final Adoption:**
Summer 2021
- **Programs Effective:**
January 2024

Conservation Program Requirements go into effect at least 2 years after a plan is adopted. ADWR shifts the actual effective date past the 2 year mark to line up with Reporting Years.

Estimated Timeline

4MP

Phoenix
AMA
Adoption

Pinal
AMA
Adoption

Santa
Cruz
AMA
Adoption

2019

2021

202_?

202_?

MPWG

Drafting
Plans

Adopting
Plans

5MP

Management Plans

A.R.S. § 45-563 (A)

“The director shall develop a management plan for each initial active management area for each of five management periods... and shall adopt the plans only after public hearings... The plans shall include a continuing mandatory conservation program... designed to achieve reductions in withdrawals of groundwater.”

Management Plans Work Group

ADWR-led stakeholder forum for the development of the 5th Management Plans

- * Goals:
 - * Assess existing conservation programs
 - * Update existing management strategies
 - * Develop new management strategies



Management Plans Work Group

MPWG

- * Status:
 - * Analysis of existing conservation programs and data in progress
- * Subgroups:
 - * Agricultural
 - * Municipal
 - * Industrial
 - * Safe-Yield Technical

Upcoming Meetings

- * Safe-Yield Technical Subgroup: September 23, 2019 at 1pm
- * MPWG: December 4, 2019 at 2pm
- * Additional Subgroup meeting times TBD
- * All meeting information is available at new.azwater.gov/5MP or under “Hot Topics” on homepage



Estimated Timeline

4MP

Phoenix
AMA
Adoption

Pinal
AMA
Adoption

Santa
Cruz
AMA
Adoption

2019

2021

202_?

202_?

MPWG

Drafting
Plans

Adopting
Plans

5MP

Next Steps

Moving forward on the 4th Management Plans

Option A

ADWR Recommendation

- * Opportunity to incorporate additional input on ADWR's recommendations for the remaining 4MPs
- * PhxAMA 4MP Stakeholder Meeting
 - * Tentative date: October 3, 2019
- * Additional feedback period through November 8, 2019

Option B

- * Adopt Conservation Programs substantially similar to those in the 3rd Management Plans
 - * Including some technical updates

Timeline is the same for either option:

Start PhxAMA promulgation/adoption process in January 2020

No change to effective date of PhxAMA Conservation Programs (1/1/2023)



Questions?

managementplans@azwater.gov

Management Plans Work Group:
new.azwater.gov/5MP

Full Text of Management Plans:
new.azwater.gov/ama/management-plans



VI. Closing Remarks and next meetings

December 3, 2019

March 11, 2020

10-11:30 a.m.

ADWR Room 3175



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ADWR /GWAICC web page:
www.azwater.gov/gwaicc

